

DESCRIPTIONS OF TWO NEW PARASITIC ISOPODS  
BELONGING TO THE GENERA PALÆGYGE AND PRO-  
BOPYRUS FROM PANAMA.

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A number of specimens representing a new species of *Palægyge* and four specimens representing a new species of *Probopyrus* were collected in 1911 by Dr. S. E. Meek and Mr S F Hildebrand at Panama and the Canal Zone, during a biological survey of the Isthmus of Panama under the auspices of the Smithsonian Institution. The specimens were found parasitic on *Macrobrachium acanthurus* and *M. jamaicense* as well as on the young of the latter or *M. olfersii*.

PALÆGYGE MEEKI, new species.

Body of female ovate, somewhat asymmetrical. Length, 9 mm.; width, 7 mm. Color of dorsal surface white, with a few lines of black along the median line and on either side about halfway between the median line and the lateral margins. Incubatory lamellæ on one side covered with black lines; on the other side only the first one is covered, the others having a few black lines at the base.

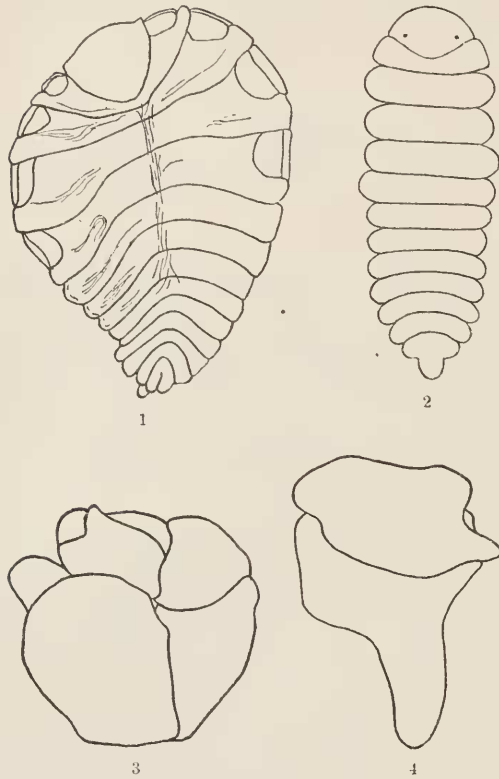
Head large, 2 mm. long and  $2\frac{1}{2}$  mm. wide, deeply set in the thorax; anterior margin widely rounded with the antero-lateral angles produced in small acute lobes. Eyes absent. (See fig. 1.) First two segments of thorax short in the median dorsal line and about equal in length; the following five segments are much longer in the median line and are subequal. Epimera are present on the first four segments, occupying the anterior two-thirds of the lateral margin. Ovarian bosses are also present on these segments and are placed on the anterior part of the sublateral margin. On the last three segments the epimera occupy the entire lateral margin.

All six segments of the abdomen are distinct. The sixth or terminal segment has a posterior incision which extends half the length of the segment, forming two posterior lobes. There are five pairs of double-branched pleopoda, a pair for each of the first five segments, making

twenty lamellæ altogether. The uropoda are rudimentary, in the form of two oval sac-like bodies. There are five pairs of incubatory plates, which do not entirely inclose the marsupial pouch on the ventral side, but come very close together, leaving only a small opening; the first pair has the terminal lobe of the distal segment long and narrow and produced straight backward. (See fig. 4.)

All the legs are prehensile and are furnished with a carina on the basis. (See fig. 3.)

The male is long and narrow, nearly three times as long as wide. The head is large, with the anterior margin widely rounded; the posterior margin is also rounded and deeply set in the first segment of the thorax. (See fig. 2.) The eyes are vanishing. All the segments of the thorax are distinctly separated. The first four segments of the abdomen are also more or less distinct. The fifth and sixth are fused to form a large terminal piece, the lateral incisions alone indicating the two segments. The uropoda are absent. There seem to be no pleopoda.



FIGS. 1-4.—PALEGYGE MEEKI. 1, FEMALE,  $\times 5\frac{2}{3}$ ; 2, MALE,  $\times 23$ ; 3, SIXTH LEG OF FEMALE,  $\times 54\frac{2}{3}$ ; 4, FIRST INCUBATORY PLATE OF FEMALE,  $\times 19\frac{1}{2}$ .

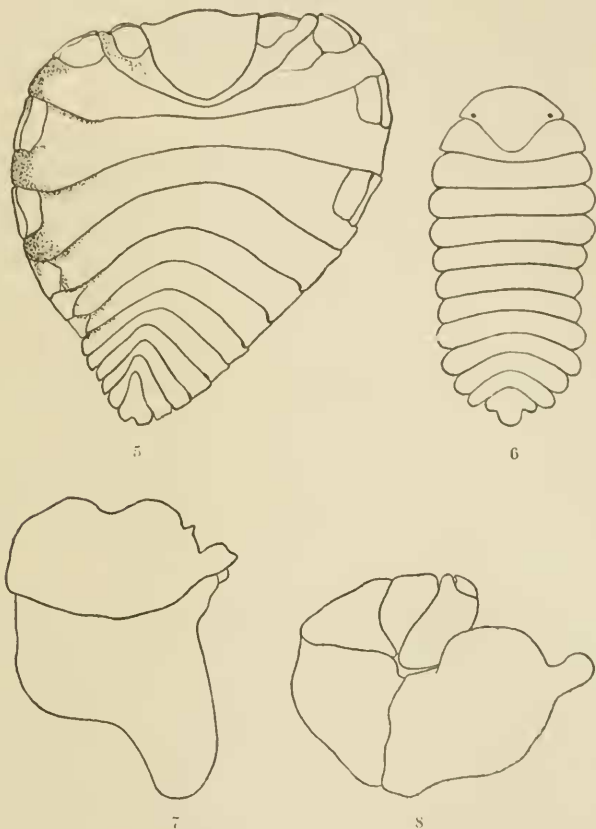
This species is parasitic on *Macrobrachium* young (either *jamaicense* or *olfersii*) being found in the branchial cavity. It was collected by Doctor Meek and Mr. Hildebrand in a small creek, Atlantic slope, Culebra, Canal Zone; in the upper Trinidad River, Panama; in the Rio Masimbar, Empire, Canal Zone; in the Rio Frijoles, Frijoles, Canal Zone; in the Agua Clara Creek, Panama; in the Gatun River, above Mitchelville; and in the upper Trinidad River, Panama, on *Macrobrachium jamaicense* (Herbst).

The type from the first-named locality is in the United States National Museum, Cat. No. 43502.

## PROBOPYRUS PANAMENSIS, new species.

Body of female ovate, somewhat asymmetrical, 10 mm. wide, 12 mm. long. Color white with a few markings of reddish-brown on one side of the thorax.

Head a little wider than long, 4 mm.:3 mm. Anterior margin widely rounded; antero-lateral angles small, acute. Head deeply immersed in the thorax. Eyes absent. (See fig. 5.)



FIGS. 5-8.—PROBOPYRUS PANAMENSIS. 5, FEMALE,  $\times 4\frac{1}{2}$ ; 6, MALE,  $\times 23$ ; 7, FIRST INCUBATORY PLATE OF FEMALE,  $\times 14\frac{1}{2}$ ; 8, SIXTH LEG OF FEMALE,  $\times 23$ .

First segment of thorax very short in the middle of the dorsal region; second segment twice as long as the first in the middle of the dorsal region; third segment as long as the first and second segments taken together; last four segments subequal. Ovarian bosses are present on the first four thoracic segments; they occupy two-thirds of the sublateral margin of the first segment, one-half that of the second and third segments, and a little more than half that of the fourth segment. Lateral to the ovarian bosses are the epimera,

which extend the length of the ovarian bosses. On the last three segments the epimera occupy the entire lateral margin.

All six segments of the abdomen are distinct. The sixth or terminal segment has a small rounded notch in the middle of the posterior extremity. There are five pairs of double-branched pleopoda, a pair for each of the first five segments. The uropoda are absent. There are five pairs of incubatory plates; the first pair has the terminal extremity of the distal segment produced in a short, broad, rounded lobe. (See fig. 7.) All the incubatory lamellæ are marked with reddish-brown, those on one side being more completely covered than those on the other side. The legs are all prehensile, with a high carina on the basis. (See fig. 8.)

The male is rather short and thickset, being twice as long as wide. The head is small, with the anterior margin widely rounded; its posterior margin is produced backward in a peculiar way, being deeply set in the first thoracic segment. (See fig. 6.) Eyes are present, situated in the post-lateral angles. All the segments of the thorax are distinct. The first four segments of the abdomen are distinct at the sides, but more or less confluent in the middle of the dorsal surface; the last two segments are fused in a single terminal piece, the incisions at the sides indicating the two segments. There are three pairs of rudimentary pleopoda, but no uropoda.

Two specimens of this species were collected by Doctor Meek and Mr. Hildebrand in a small creek at Pariso, Canal Zone. They were parasitic on *Macrobranchium acanthurus* (Wiegmann), being found in the branchial cavity.

The type is Cat. No. 43503, U.S.N.M.

This species differs from all the described species of the genus from the Atlantic Coast of North America in the presence of a notch in the terminal abdominal segment of the female. *Probopyrus floridensis*, however, has a minute excavation. The first incubatory plate of the female is different in the two species, as well as the color markings; the head, abdomen, and proportions of the male are also different. The shape of the head and of the abdomen of the male is different from any of the described species.